



OG-300 External Brazed Plate Heat Exchanger Solar Hot Water Systems Schematics and Parts Lists

(Revision 1.0 - May 2011)

IMPORTANT INFORMATION

Diagrams are conceptual only and not to scale. Final system design must adhere to all relevant codes, regulations and guidelines and may require the approval and stamp of a licensed engineer. It is the responsibility of the installer/contractor to ensure that the system design meets all relevant standards, regulations and guidelines and is safe and operating correctly. Any installer/contractor must be legally certified to install solar water heating systems and have attended an accredited Apricus training session before completing the installation of any Apricus products.

The installation of Apricus products must be in accordance with guidelines outlined in the latest version of the Apricus installation manual. For the latest version of the manual contact your local Apricus agent or email office-usa@apricus.com.

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Naming Convention Overview

Apricus uses the following format coding to describe the systems in this document:

NAME_TYPE_EXHE_TUBE_1STTANK_2NDTANK_EXTBOOST

The following information describes the different options.

NAME: This describes the type of system

APSS - Apricus solar system

TYPE: This describes the type of system being installed

DIRECT	- Direct flow solar thermal system
CLOSED	- Closed loop solar thermal system

EXHE₁: This describes the type of external heat exchanger

BPHE	- Dual wall brazed plate heat exchanger with leak detection
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TUBE: This describes the number of tubes installed

AP-30	- One AP-30 collector with 30 tubes total
AP-60	- Two AP-30 collectors with 60 tubes total

1stTANK: This describes the type of tank the solar thermal system is connected to

FTD	- Direct flow tank (no heat exchanger)
FTB	- Internal coil tank
FTW	- Dual internal coil tank
DT-XXX	- Tank has a dip tube solar connection
XXX-E	- Tank has an electric element

2ndTANK₁: This describes the second tank in series in the solar thermal system

STD-E	- Standard electric water heater
STD-G	- Standard gas water heater

EXTBOOST₁: This describes the type of external auxiliary heating

PBGT	- Tankless water heater
TBGT	- Top boosted by pumped tankless water heater
TBGB	- Top boosted by indirect boiler

Example:

APSS_CLOSED_BPHE_AP30-DT-FTD-PBGT:

Apricus closed loop solar thermal system with external heat exchanger, one AP-30 with a dip tube connection to a standard tank feeding a tankless water heater.

Notes:

1. Depending on the type of system this position may not be filled.

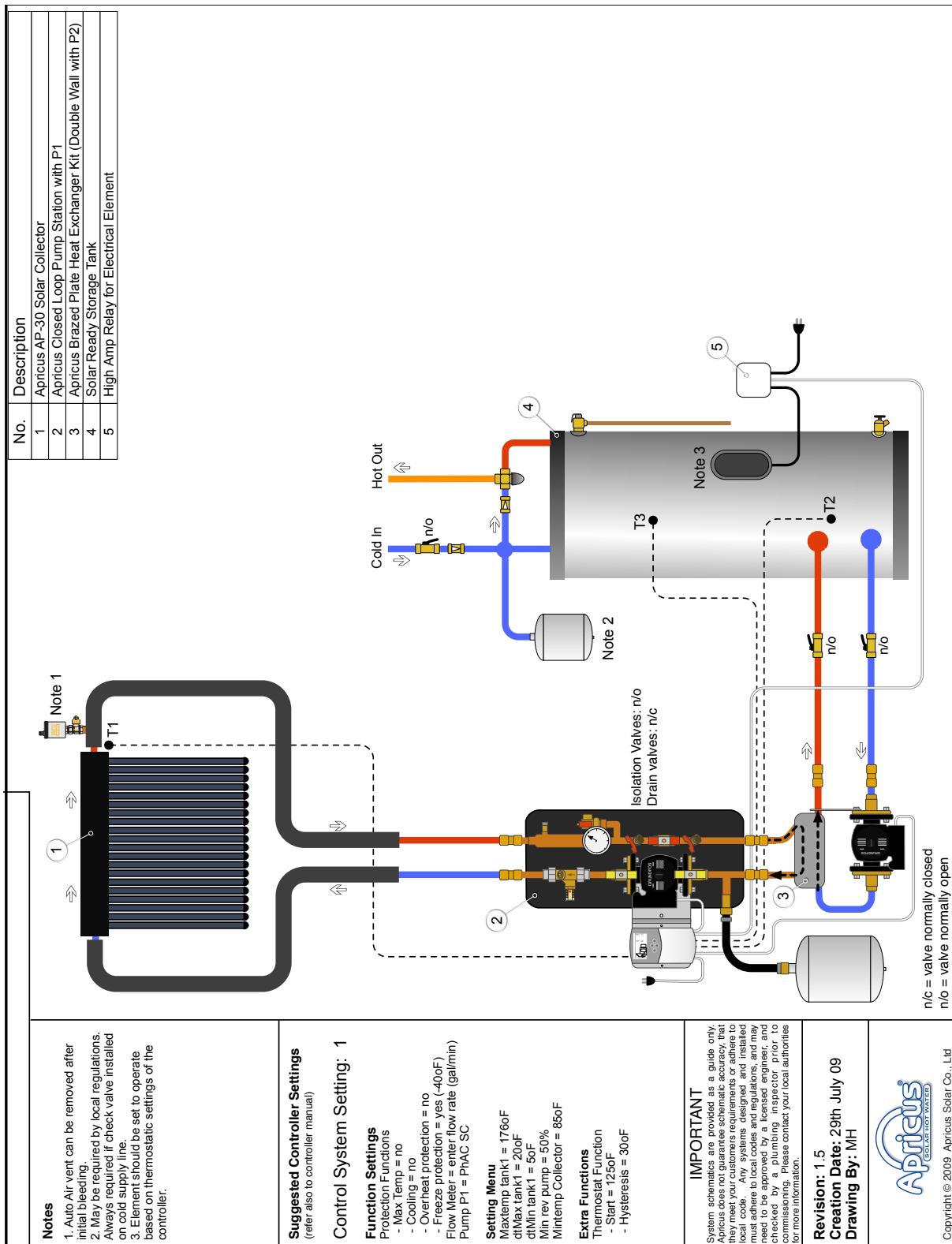
Symbol Guide

System Symbols used in Diagrams

	Air Vent		3 Way Solenoid Valve
	Drain Valve		Circulation Pump
	Drain Valve (on tank)		Anti-scald Valve
	Flow Meter		Expansion Tank
	Check Valve		Quick-connect Fitting
	Ball Valve		Temperature & Pressure Relief Valve
			Pressure Relief Valve

System Schematic: APSS_CLOSED_BPHE_AP30_FTD-E

System Schematic: APSS_CLOSED_BPHE_AP60_FTD-E

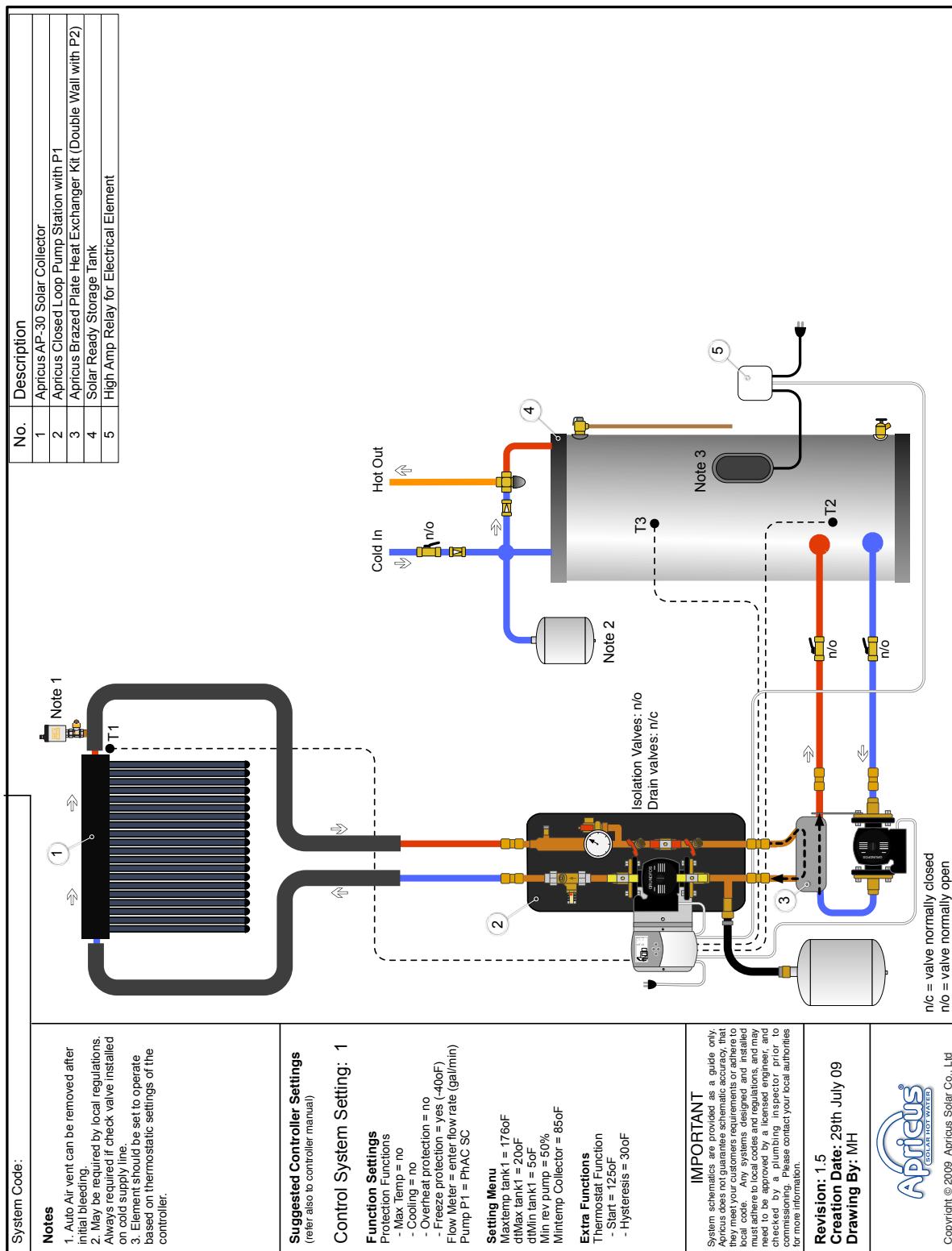


OG300 Parts List

System	APSS_CLOSED_BPHE_AP30_FTD-E	APSS_CLOSED_BPHE_AP60_FTD-E
Collector	Apricus AP-30	2x Apricus AP-30
Pump	P1: Grundfos UPS 15-58FC P2: Grundfos UPS 15-29SF	P1: Grundfos UPS 15-58FC P2: Grundfos UPS 15-29SF
Controller	Watts Radiant Solar Control	Watts Radiant Solar Control
Tank	A.O.Smith ProMax SUN-80 Bradford White Solar Saver MS80R6SS Rheem Solaraide 81VR80-1	A.O.Smith ProMax SUN-120 Bradford White Solar Saver MS120R6SS Rheem Solaraide 81VR120-1
Expansion Tank	Watts Radiant ETX 30	Watts Radiant ETX 30
Expansion Tank	Watts PLT-12 (Potable Water)	Watts PLT-12 (Potable Water)
Heat Exchanger	Hrale B3-14DW-12-3.0 (Dual Wall)	Hrale B3-14DW-12-3.0 (Dual Wall)
Heat Transfer Fluid	Whitlam Solar Hi-Temp Dowfrost HD Clariant SOL HT	Whitlam Solar Hi-Temp Dowfrost HD Clariant SOL HT
Piping	Copper or Stainless Steel	Copper or Stainless Steel
Check Valve	NSF/CSA Approved 3/4" Valve	NSF/CSA Approved 3/4" Valve
Mixing Valve	NSF/CSA Approved 3/4" Anti-Scald Valve	NSF/CSA Approved 3/4" Anti- Scald Valve
Pressure Relief Valve	Watts 3/4" Pressure Relief Valve, 75psi	Watts 3/4" Pressure Relief Valve, 75psi
Insulation	Outdoor: UV protected 7/8x1" Closed Cell EPDM Insulation >R-3.6 Indoor: 7/8x1" Closed Cell EPDM Insulation >R3.6	Outdoor: UV protected 7/8x1" Closed Cell EPDM Insulation >R-3.6 Indoor: 7/8x1" Closed Cell EPDM Insulation >R3.6
Air Vent	Watts Regulator HAV Air Vent	Watts Regulator Air Vent
Isolation Valve	Watts 600/800 WOG	Watts 600/800 WOG
Drain Valve	Watts Radiant Drain Valve	Watts Radiant Drain Valve
Flow Control Valve	Watts Radiant Flow Guard	Watts Radiant Flow Guard
Instrumentation	Watts Radiant DPTG-3 Temperature & Pressure Gauge	Watt Radiant DPTG-3 Temperature & Pressure Gauge

System Schematic: APSS_CLOSED_BPHE_AP30_DT-FTD-E

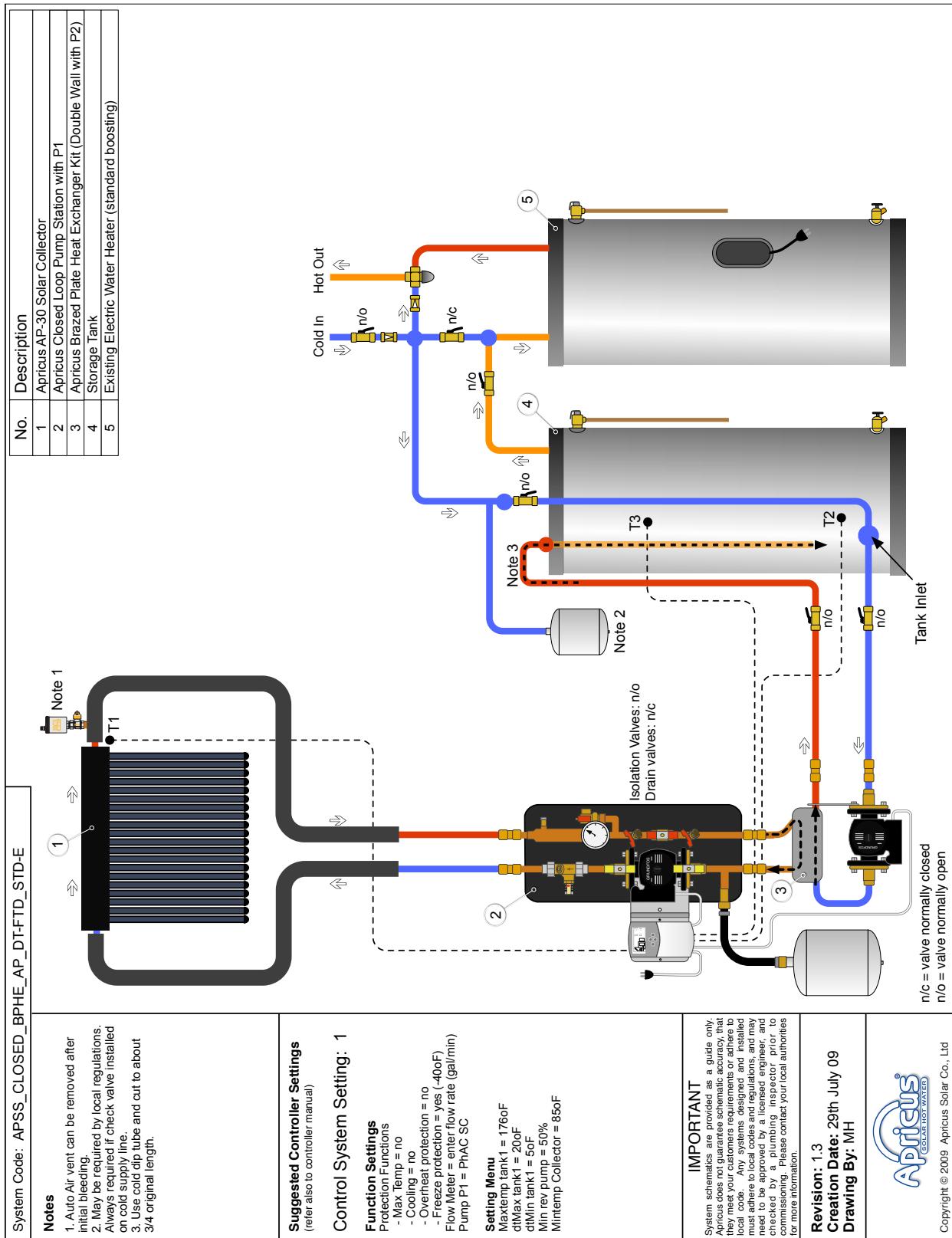
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Tank	American #SE62-80H-045S A.O.Smith ProMax SUN-80 Bradford White Solar Saver MS80R6SS Rheem Solaraid 81VR80TC-1	American #SE62-119R-045S A.O.Smith ProMax SUN-120 Bradford White Solar Saver MS120R6SS Rheem Solaraid 81VR120TC-1
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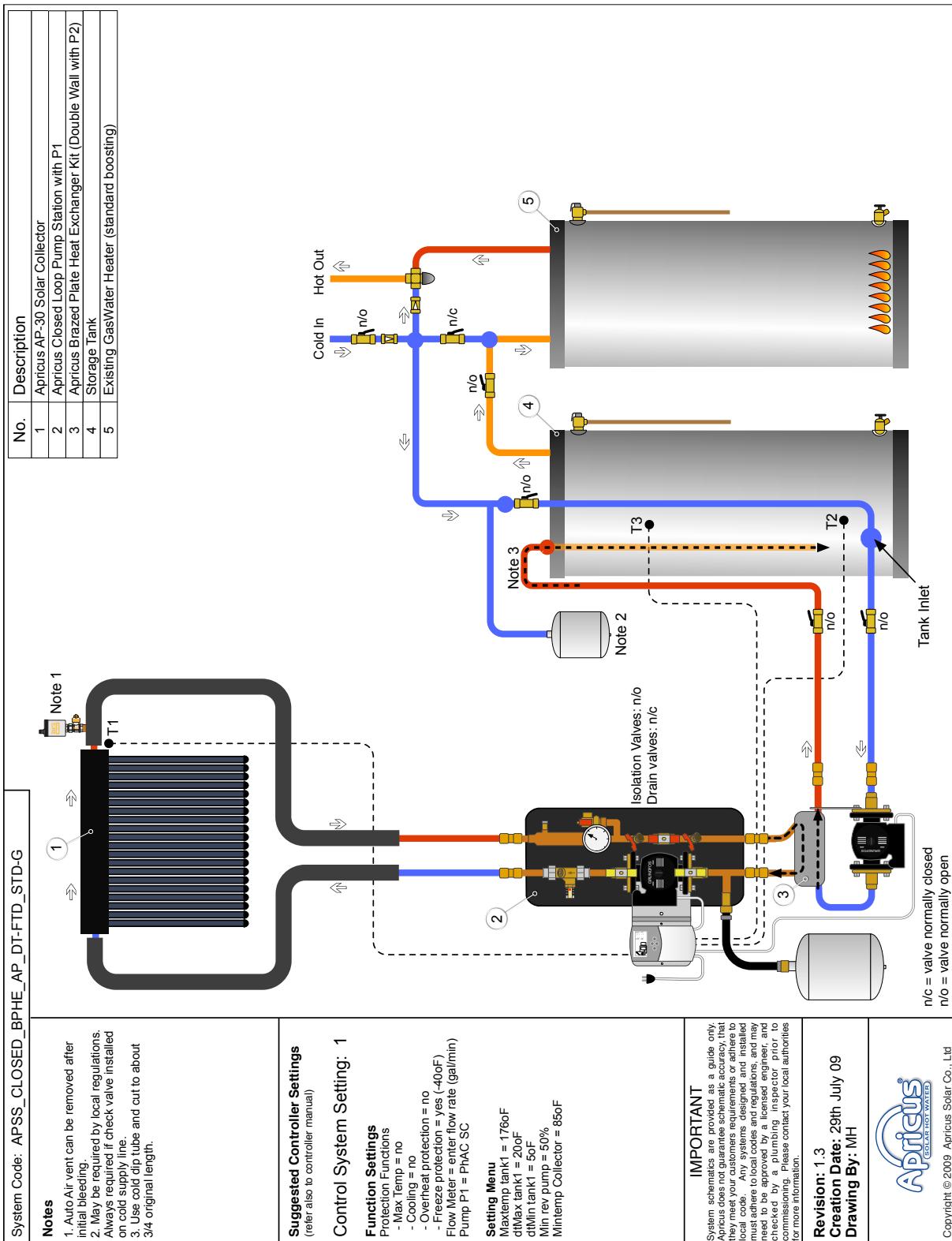


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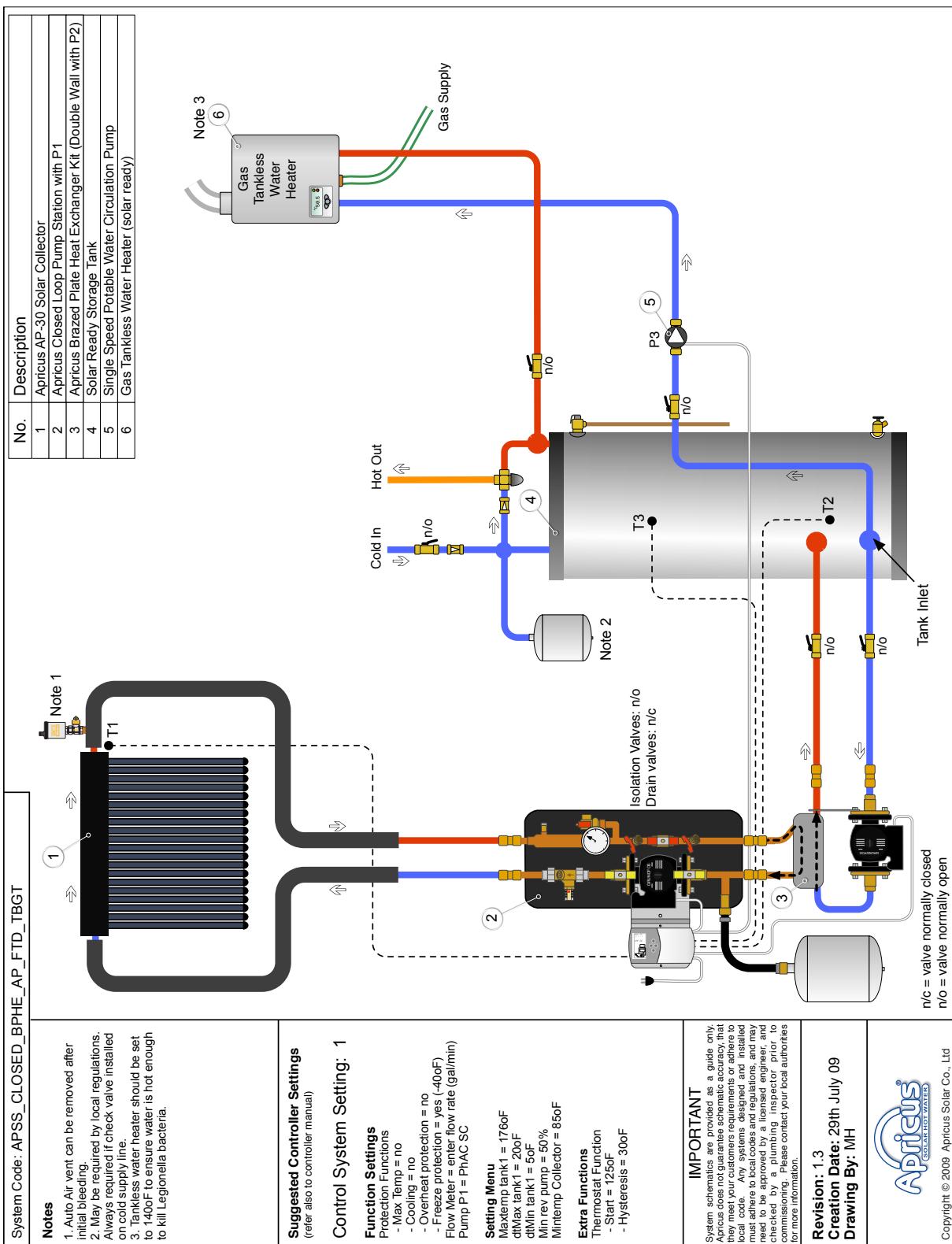
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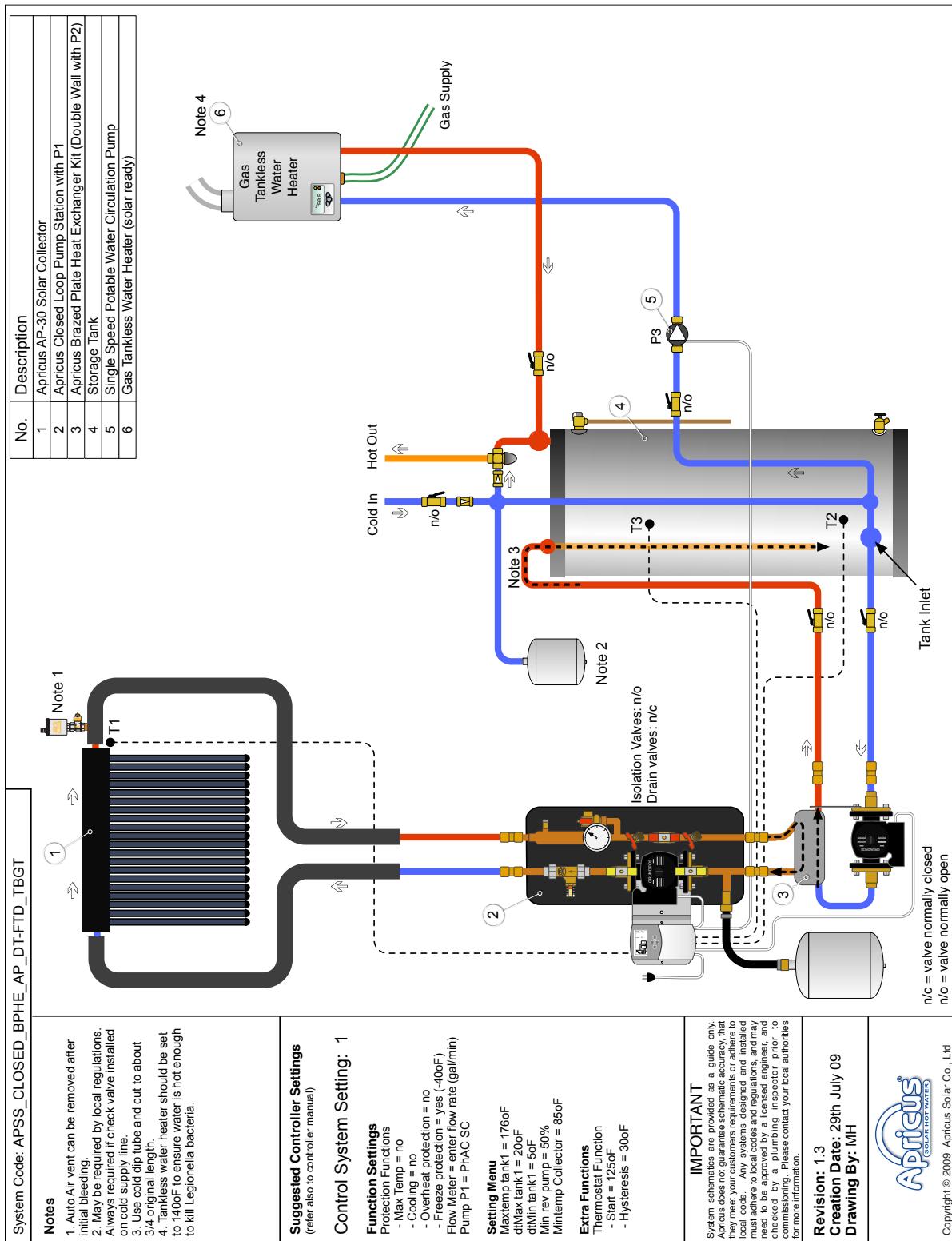


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Controller	Watts Radiant Solar Control	Watts Radiant Solar Control
Tank	A.O.Smith ProMax SUN-80 Bradford White Solar Saver MS80R6SS Rheem Solaraid 81VR80-1	A.O.Smith ProMax SUN-120 Bradford White Solar Saver MS120R6SS Rheem Solaraid 81VR120-1
Tankless Heater	Quietside ODW-99A Takagi T-Kjr.	Takagi T-H1 Takagi T-K3-SP
Expansion Tank	Watts Radiant ETX 30	Watts Radiant ETX 30
Expansion Tank	Watts PLT-12 (Potable Water)	Watts PLT-12 (Potable Water)
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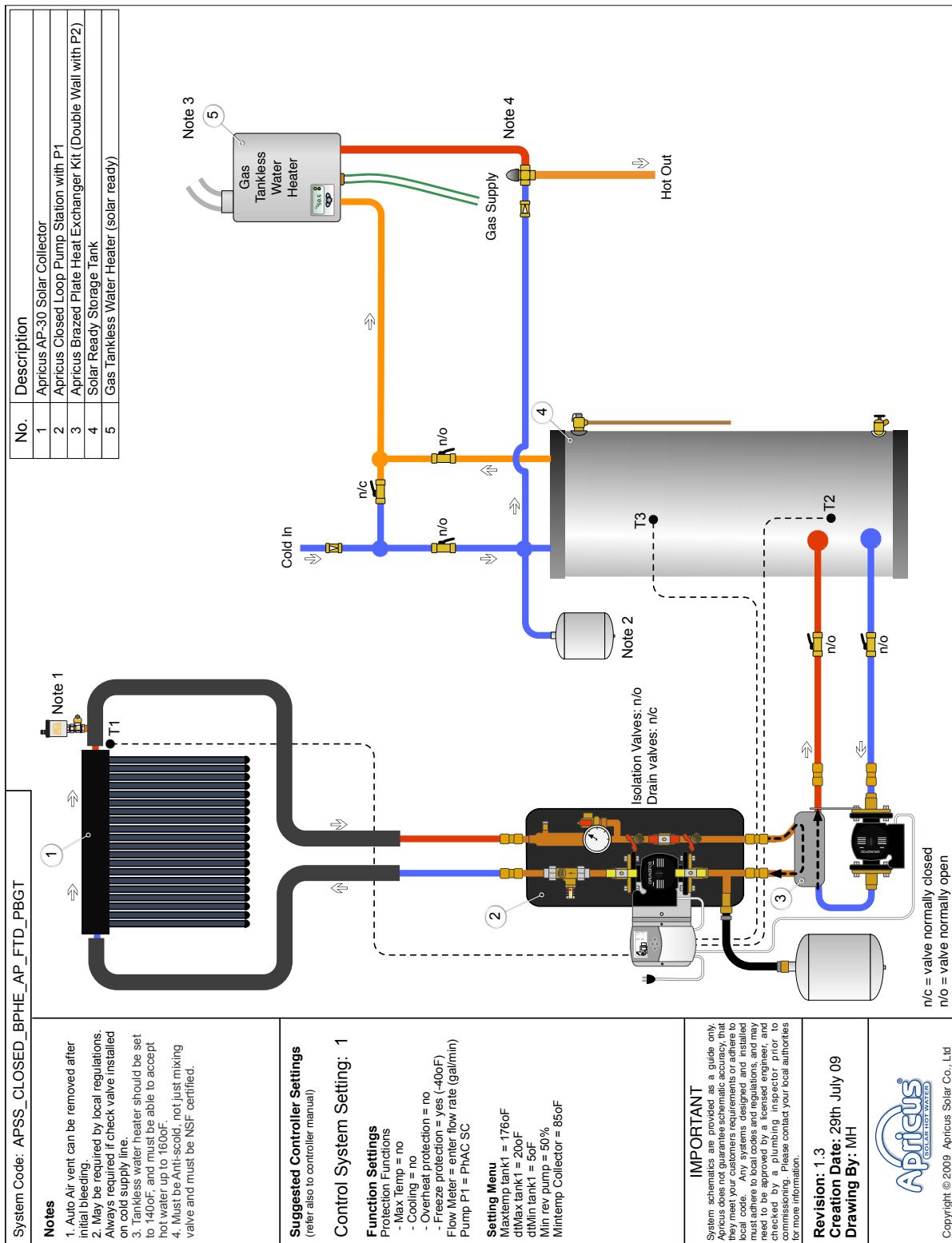


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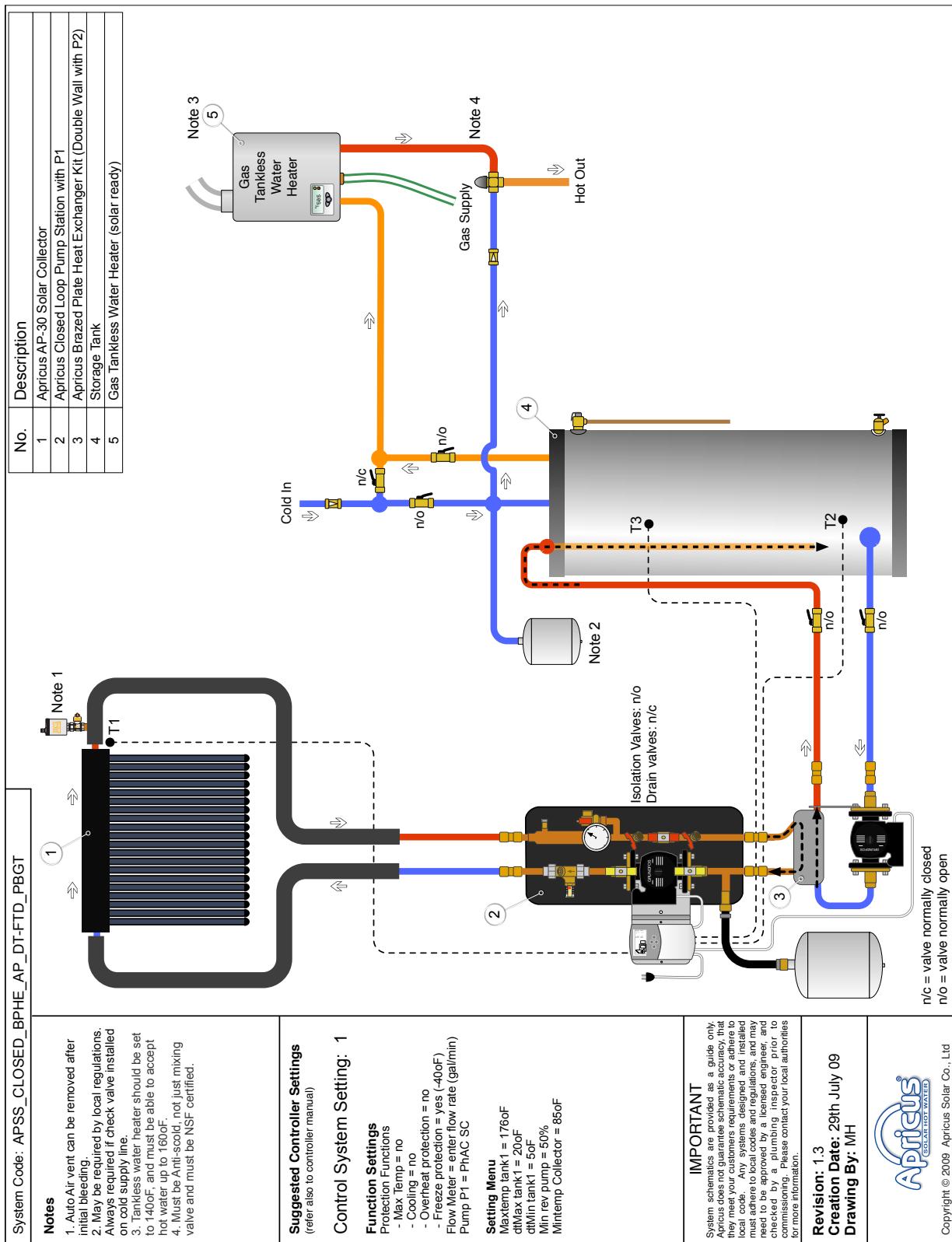
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Tankless Heater	Quietside ODW-99A Takagi T-Kjr.	Takagi T-H1 Takagi T-K3-SP
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Document Summary

Author: Eric S

Creation Date: April 2010

Document Name: OG300 Systems manual

Revision History:

1.0. Breakout from A7-05.4.10 to only contain BPHE systems